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NOTES ON SHELL IMPLEMENTS FROM FLORIDA

By CLARENCE B. MOORE

CONSIDERABLE has been written[1] about the interesting implements of shell, made from conchs (*Busycon*) and from "horse-conchs" (*Fasciolaria*), which are found throughout almost the entire state of Florida and sparsely in neighboring regions, but are preeminent as to numbers and quality of make in the midden sites of the aboriginal Key-dwellers along the southwestern Florida coast between Mound Key in Lee county and Lossman's Key in the county of Monroe, inclusive. (See map, fig. 7).

Farther south among the Keys, on the peninsula, and among the beautiful islands below it, these midden sites do not extend, doubtless owing to the scarcity in their waters of the oyster, the principal article of diet among the eaters of shell-fish along the coast.

This season (1920) was spent by us along the southwestern Florida coast among many aboriginal sites, most of which were familiar to us. Among these was Sandfly, formerly described by us as Wiggins Key, on Sandfly Pass, near Chokoloskee. At Sandfly we found a change of ownership[2] and name and that a considerable amount of territory had been cleared since our latest visit in 1904, all of it a midden site covered with shells left from aboriginal times.

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[1] Charles Rau, *Smithsonian Contributions to Knowledge* 287, "The Archaeological Collection of the United States National Museum," p. 66, *et seq.*, fig. 257.

Frank Hamilton Cushing, "A Preliminary Report on the Exploration of Ancient Key-Dweller Remains on the Gulf Coast of Florida," *Proceedings of the American Philosophical Society*, vol. XXXV, no. 153, p. 38 *et seq.*

C. B. Moore, *Journal of the Academy of Natural Sciences*, Phila.: "Antiquities of the Florida West-Coast," vol. XI, p. 380 *et seq.*; "Miscellaneous Investigation in Florida," vol. XIII, p. 315 *et seq.*; "Notes on the Ten Thousand Islands, Florida," vol. XIII, p. 463 *et seq.*

C. B. Moore, "Notes on the Archaeology of Florida," *American Anthropologist*, vol. XXI, no. 4, Oct.-Dec., 1919, p. 401 *et seq.*

[2] Mr. C. T. Boggess, the present owner, kindly placed the entire property at our disposal for repeated search.

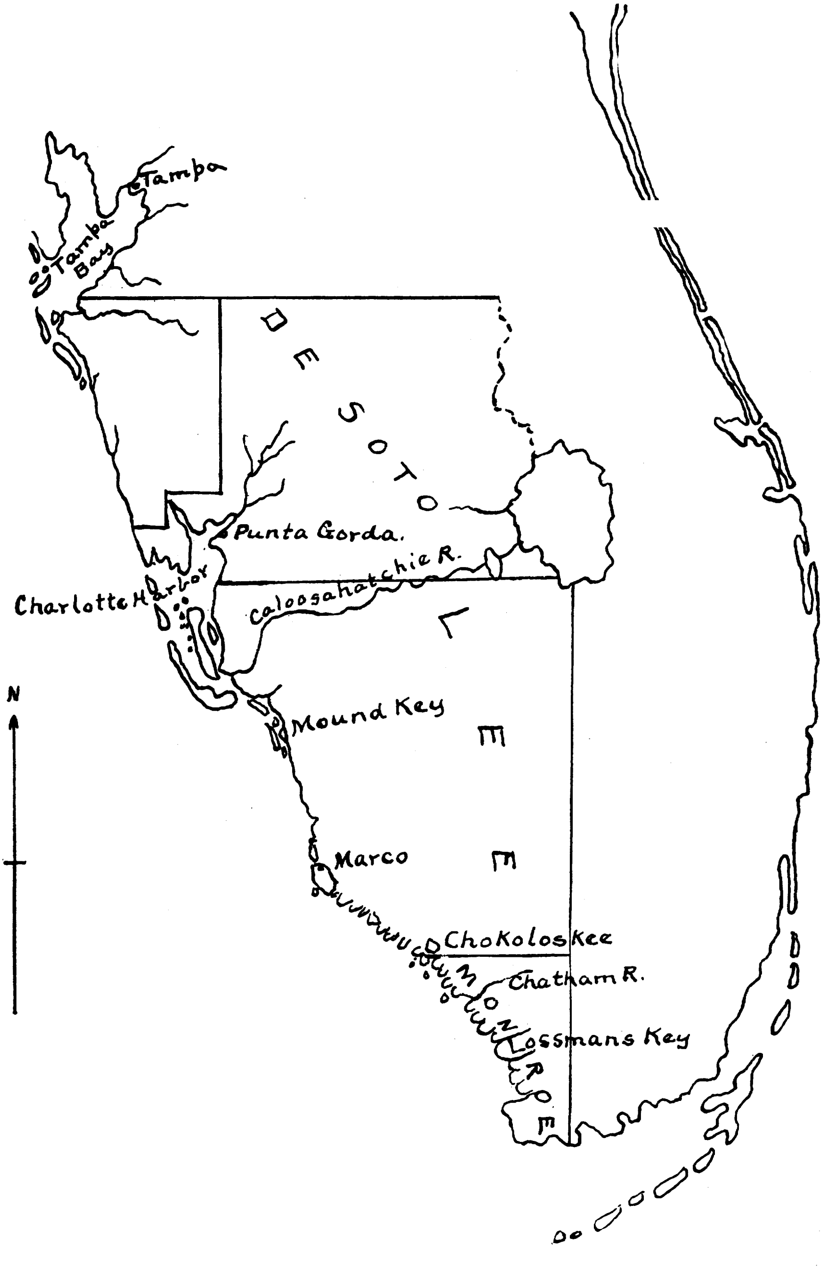

FIG. 7.—Outline map of the southwestern coast of the Florida peninsula.

Here, on one extensive field almost exclusively covered with oyster shells, we found only two or three shell implements. These were of the ordinary type met with along the southwestern Florida coast, where almost the entire shell is used and has holes, or a hole and a notch, in the body whorl, somewhat below the shoulder, permitting the handle to enter the shell almost at right angles.

In another great field, however, abounding with implements, practically all the shell tools made from the conch (*Busycon*) proved to be variants and had either one or two large holes in the top of the shell above the shoulder, and none intended for handles below it.[1]

About a score of these shell tools from Sandfly, variants so far as the southwestern Florida coast is concerned, were sent to Mr. Charles C. Willoughby who very kindly has written as to the method of their hafting, and has presented to us three specimens hafted by him as shown in the illustrations, two from Sandfly and one from near the eastern coast of Florida.

> The shell implements you sent for examination fall naturally into two groups —those with a single hafting perforation, and those with double perforations for hafting. All of these holes, whether single or double, are in the outer whorl of the spiral body above the shoulder. A few other minor perforations or fractures occur in the body of some of the shells, either above or below the shoulder. Judging by the weathering of their edges, some are as old as the hafting perforations, and as you suggest, may have been made to free the fish from the shell. Others are clearly of later date, for their edges show less weathering and some of the holes and fractures are relatively recent. I do not think that any of these smaller perforations had anything to do with the hafting of the implements, but that all of the twenty-two shells sent fall within one of the two above-mentioned groups.
>
> I find practically no evidences of wear caused by the haft in any of the implements. Some of the hafting perforations are quite symmetrical with smooth edges, others are more roughly fashioned. The smoother edges, however, seem to be the result of superior workmanship rather than of wear.
>
> It will be noticed that nearly all of the smaller implements come within the first group, and have but one perforation for the handle, while in the second group two perforations are required to insure proper rigidity of the heavier tool. The method of hafting, illustrated in fig. 8, answers well enough for the smaller tool, as the

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[1] To show how nearly universal was this rule we may say that besides many imperfect shell tools of this class, some having one hole in the top and some two holes, we got from this field, entire or almost so, twenty implements each having two holes above the shoulder, and fourteen having one hole so placed. But two exceptions were found, each having a single hole below the shoulder and none elsewhere.

upper portion of the spire prevents the looped end of the haft from working loose in the ordinary light work such as the implement would naturally be used for.

The looped end of the handle of the heavier shell, however, (fig. 9), would soon become loosened by the additional strain and turn upward over the shell's apex, were it not held securely by the binding which passes through the second perforation. Most of the implements have picklike narrow cutting edges. Some of the larger ones, however, have adze-like edges. All were ground while holding the aperture of the shell downward towards the abrading surface of the limestone, or other substance used for the purpose. The ground surface near the beak of the shell is therefore on about the same plane as the aperture. When the implement is being hafted, the handle can be adjusted so as to bring the cutting edge approximately parallel to it, or at right-angles, or into almost any position desired.

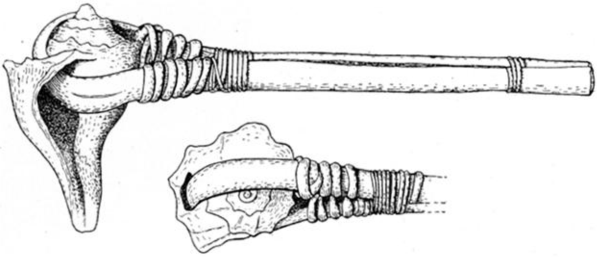

FIG. 8.—Method of hafting. About one-quarter size.

With the Indian's proficiency in such work, it would not take him long to select a shell of the proper size from which the fish had been previously extracted, grind its beak to an edge, perforate the body whorl, and insert a haft. With a single blow of such a tool the body shell of a live *Busycon* could be quickly perforated to facilitate the removal of the fish, and I am inclined to think that many of the smaller tools of this type were often used for this purpose.

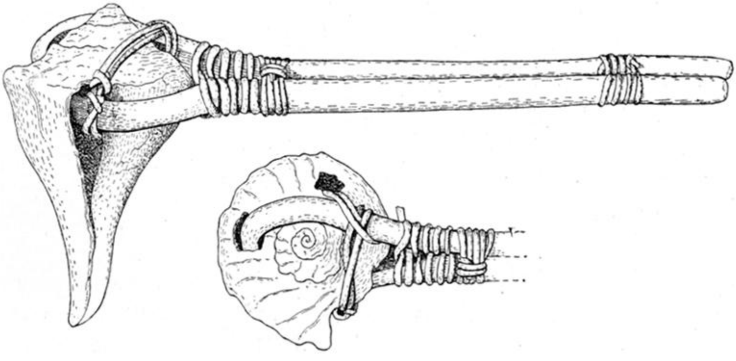

FIG. 9.—Method of hafting. About one-quarter size.

There is, of course, nothing new in the use of the looped handle such as I have illustrated, except in its application to shell tools of this type for it was often employed by the Indians in hafting stone axes, mauls and clubs.

And now to take up another point in relation to tools of shell. Many of these implements have holes for the handle so carefully rounded that one is uncertain how they were made. A solution can now be offered as to some of them at least.

At Dismal Key we found a partly completed tool, evidently discarded on account of a crack accidentally developed in the making. The body whorl of the shell had been cut back about four inches from the aperture; part of the beak had been broken off to leave an end sufficiently thick to bevel into a cutting edge. The interesting point about the shell, however, is that in the place where a hole for a handle would be expected there is a round semi-perforation plainly made by pecking as shown in plate I. The margin of the hole later probably would have been ground into a regular surface.

On the top of this shell, above the shoulder, a small, irregular hole has been knocked through and this brings us to another question which, though discussed before,[1] may as well be brought to date.

We know that some of the natives around Key West, Florida, at the present time eat the conch (*Busycon*) and that, in order to aid in freeing the shell fish from its shell, they are accustomed to make a hole in it. Also we are told[2] that the aborigines of the West Indies made a small hole near the top of the shell (here the queen conch, *Strombus gigas*, is referred to) to aid in loosening the fish, and that the modern negro conch fishers there also break into the shell for this purpose but in different ways so that on finding these shells an investigator can determine by what class of persons the contents have been removed.

On such of those southwestern Florida Keys, however, where conch shells (*Busycon perversum*)[3] are found, often in great numbers, all brought there when their contents were used for food by the aborigines, while many of the shells have a small hole (in the top

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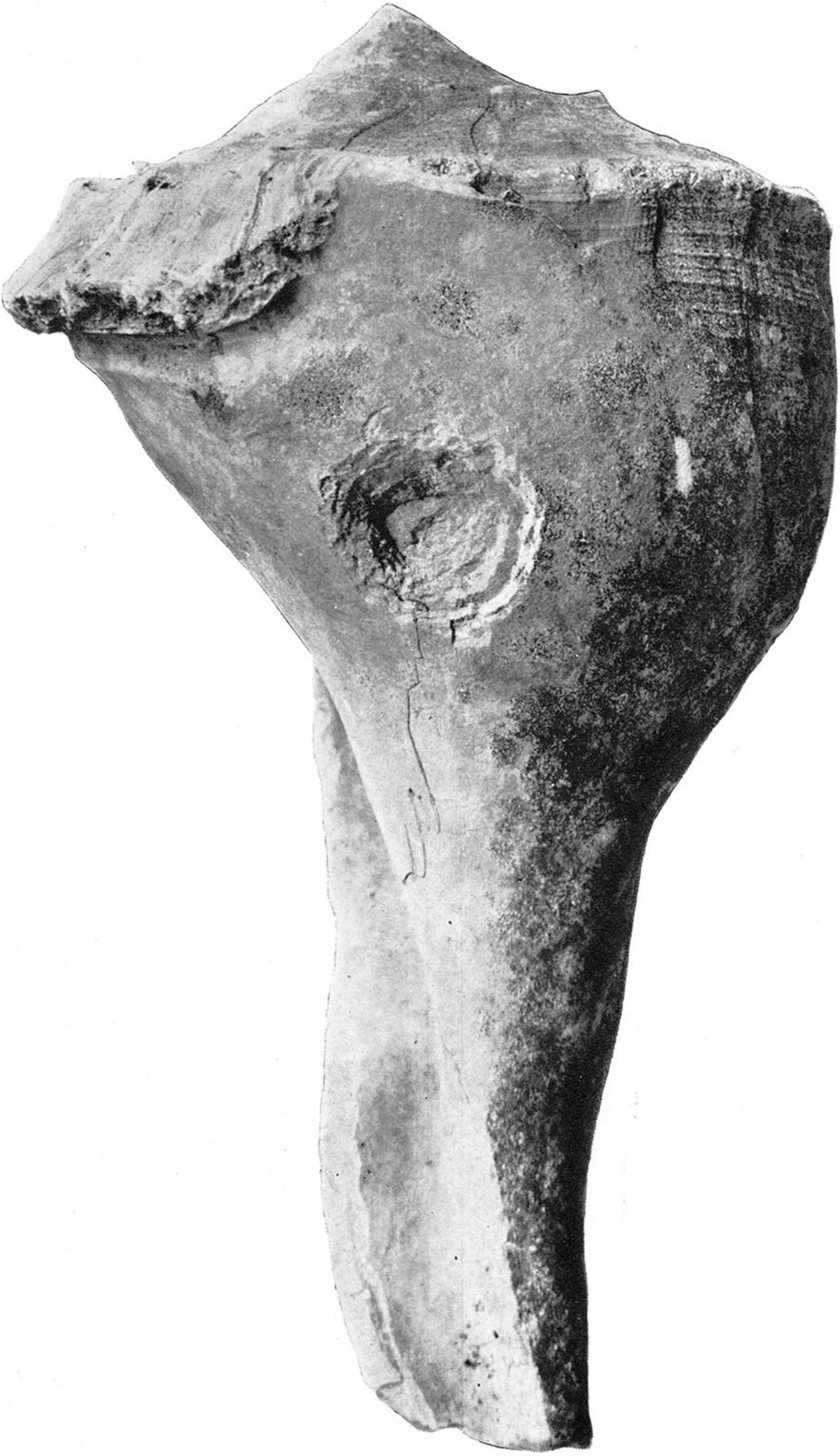
[1] *Notes on the Ten Thousand Islands*, p. 463 *et seq.*

[2] Theodoor De Booy, *Contributions from the Heye Museum*, Number 9, p. 79. Reprinted from the *American Anthropologist*, vol. XVII, no. 1, Jan.-March, 1915.

[3] *Busycon carica*, having the opening to the right as one faces it, is not found on the western coast of Florida.



UNFINISHED TOOL OF SHELL SHOWING A METHOD OF MAKING THE HOLE FOR A HANDLE BY PECKING. (ACTUAL SIZE.)

as a rule), far greater numbers are without it. Therefore in this region we see that methods other than perforation of the shell often must have been practised to detach the fish.

We note also that these holes, which are small as a rule and of course are found in quantities of shells that have not been made into implements, on occasion served a secondary purpose when the shells were wrought into tools.

Cushing[1] in writing of his wonderful discoveries in the muck at Marco, a settlement at the northern end of Key Marco, tells us:

> Thus the stick or handle could be driven into these perforations [the large holes for the handle] past the columella in such manner that it was sprung or clamped firmly into place. Nevertheless it was usually further secured with rawhide thongs—now mere jelly—passed through one or two additional perforations in the head, and around both the stick and the columella.

The present writer is fortunate in having received as a gift from Mr. Cushing a conch-shell implement from the Marco exploration (fig. 10) having part of the wooden handle and showing plainly deep furrows indicating the former presence of the thongs described by him. The reader will see that probably starting from what is now a deep, central depression, evidently the location of a knot, a thong was carried to the reader's left, wound around the handle, brought back (as shown by the double groove), carried to the opening at the right where it was again looped around the handle, was led upward over the shoulder, part way not in contact with the shell, to the small opening above the shoulder, through which it was drawn around the handle inside the shell and then, returning through the same opening, was directed down over the shoulder to the starting point where the marked depression is apparent, and was there knotted to the other end and to the cross thong below.

On all the hundreds, or probably thousands, of shell implements, dry surface finds, with one exception, that we have examined, no such furrows were apparent and we believe the marks on the shell in question were created by corrosive action in connection with the decomposition of the thongs, the acid affecting the lime of the shell lying in the wet muck, and were not the result of wear. The large tool found by us in the muck of the canal on Mound Key[1] perhaps had been dropped there without a handle and the accompanying thongs.

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[1] *Op. cit.*, p. 40.

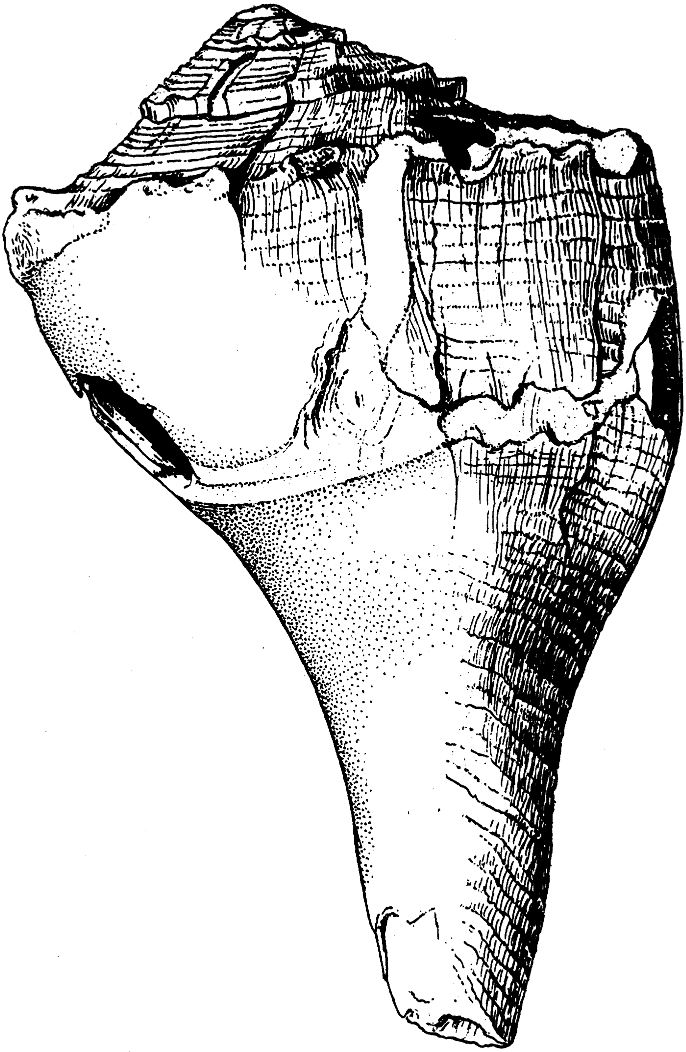

FIG. 10.—Shell tool from Marco, showing marks of thongs. Actual size.

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[1] *Certain Antiquities of the Florida West-Coast*, p. 388.